DOCUMENT RESUME

ED 358 662 EC 302 226

AUTHOR	Clark, Gilbert A.; Zimmerman, Enid
TITLE	Issues and Practices Related to Identification of Gifted and Talented Students in the Visual Arts. Identification in the Arts. Research-Based Decision Making Series, Number 9202.
INSTITUTION	National Research Center on the Gifted and Talented, Storrs, CT.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	Jun 92
CONTRACT	R206R00001
NOTE	59p.
AVAILABLE FROM	NRC/GT, The University of Connecticut, 362 Fairfield Rd., U-7, Storrs, CT 06269-2007.
PUB TYPE	Information Analyses (070)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Creativity; Definitions; Educational Practices; Elementary School Students; Elementary Secondary Education; *Evaluation Methods; *Gifted; Secondary School Students; Student Characteristics; Student Evaluation; *Talent; *Talent Identification; Test Use; *Visual Arts

ABSTRACT

This paper offers a critical examination of definitions, issues, and practices relative to identification of students who are gifted and talented in the visual arts. The lack of agreement on the definition of talent in the arts is discussed, along with the role of culture, student characteristics, creativity, skills, cognitive abilities, affective abilities, interest and motivation, potential and processes contrasted with performance and products, art specializations, and distribution of arts talent in the general school population. Identification issues are then examined in relation to the use of outcomes derived from standardized art tests; intelligence, achievement and creativity tests; students' backgrounds, personalities, values, and ages; and use of multiple criteria identification systems. Examination of current practices and critical reviews of their advantages and disadvantages are reported in regard to nonstructured nominations, structured nominations, group intelligence quotients, achievement tests, academic records, standardized art and creativity tests, informal art instruments, portfolio and performance reviews, interviews, and observations. These practices are hierarchically arranged as steps in an identification program and in terms of their most appropriate age/grade applications. Conclusions are drawn about future applications of issues and practices. (Contains 142 references.) (Author/JDD)

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The University of Georgia

Gilbert A. Clark, Ph.D.
Enid Zimmerman, Ph.D.
Indiana University
Bloomington, Indiana

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identification in the ARTS
RESEARCH-BASED DECISION MAKING SERIES

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THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

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About the Authors...

Dr. Gilbert A. Clark is Professor of Art Education and Gifted/Talented Education at Indiana University and is the director of ERIC:ART, the ERIC adjunct clearinghouse for art education. He investigates art curriculum theory and development, child development in art, test development, and the assessment of learning and programs in art and gifted education. He has also developed several major curriculum projects in art and is the author of many articles and monographs in art education and gifted and talented education. His published books include *Art/Design: Communicating Visually, Educating Artistically Talented Students, Resources for Educating Artistically Talented Students*, and *Understanding Art Testing*. His most recent publications are *Examining Discipline Based Art Education as a Curriculum Construct* and *Contemporary Materials for Teaching New Aspects of Art Education.*

Dr. Enid Zimmerman is Professor of Art Education and Gifted/Talented Education at Indiana University, where she also serves as Coordinator of the Art Education Program. Throughout her career, she has engaged in a variety of research and development projects in art education in the areas of multicultural education, women's issues, artistically talented students, art teaching, assessment, and curriculum development. She has contributed numerous articles, book chapters, and co-authored books including *Art/Design: Communicating Visually, Artstrands: A Program for Individualized Art Instruction, Educating Artistically Talented Students, Resources for Educating Artistically Talented Students*, and *Understanding Art Testing*.

The authors co-direct the Artistically Talented Program at Indiana University and, for a decade, co-directed the Indiana University Summer Arts Institute for artistically talented students. They remain in close contact with teachers and students in various parts of the country involved in art programs for artistically gifted and talented students at all levels.

ISSUES AND PRACTICES RELATED TO IDENTIFICATION OF GIFTED AND TALENTED STUDENTS IN THE VISUAL ARTS

Gilbert A. Clark, Ph.D.
Enid Zimmerman, Ph.D.
Indiana University
Bloomington, Indiana

ABSTRACT

Important issues and practices relative to identification of gifted and talented students in the visual arts are introduced in this paper. As many of the issues and practices discussed are complex and often misunderstood or misapplied, they are examined critically in terms of their research implications and applications. Problems of definition, identification, and recommended practices are addressed based on past and current research about education of artistically gifted and talented students.

Issues are discussed relative to the apparent lack of agreement upon definition of talent in the arts and the role of culture, student characteristics, creativity, skills, cognitive abilities, affective abilities, interest and motivation, potential and processes contrasted with performance and products, art specializations, and distribution of arts talents in the general school population. Each issue is examined in light of complexities that have confounded definitions of talent in the arts and practices used in identification programs.

Issues relative to identification of gifted and talented students in the arts are then examined in relation to the use of outcomes derived from standardized arts, intelligence, achievement and creativity tests, factors of students' backgrounds, personalities, values, ages, and use of multiple criteria identification systems. Various aspects of these issues are discussed in regard to their uses and misuses in current gifted and talented visual arts programs in relation to identification procedures.

Examination of current practices and critical reviews of their advantages and disadvantages, based on issues of definition and identification of art talent, are reported in regard to non-structured nominations, structured nominations, group IQ, achievement tests, academic records, standardized arts and creativity tests, informal art instruments, portfolio and performance reviews, interviews, and observations. These practices are hierarchically arranged as steps in an identification program and in terms of their most appropriate age/grade applications.

Conclusions are drawn about future applications of issues and practices that are critiqued. Multiple criteria identification systems are recommended and future research about definition and identification of gifted and talented students in the visual arts is strongly encouraged.

ISSUES AND PRACTICES RELATED TO IDENTIFICATION OF GIFTED AND TALENTED STUDENTS IN THE VISUAL ARTS

Gilbert A. Clark, Ph.D.
Enid Zimmerman, Ph.D.
Indiana University
Bloomington, Indiana

EXECUTIVE SUMMARY

There are many young people across the country with an overwhelming desire and interest to create expressive images. Unfortunately, many of them are not provided the support or instruction they need to realize their interests and potential abilities. A beginning step in helping young people with a burning desire to participate creatively in the visual arts is to recognize their potential and help develop their skills and abilities to express themselves. In this paper, research and inquiry about current issues and practices that bear upon the identification of gifted and talented students in the visual arts are discussed, and a series of issues is presented related to defining art talent, identifying artistically gifted and talented students, and the current status and ramifications of these issues. Next, some issues are related to current practices and a series of research recommendations about identifying artistically gifted and talented students is generated from the issues reviewed. Although many issues are categorized and discussed separately, they are not mutually exclusive, and all of them should be viewed as interrelated.

Definition of Art Talent

Definition, identification, and programming are considered interlocking concerns and, therefore, discussion of identification of students talented in the arts begins with a clarification of definitions. It is concluded that a true or conclusive definition of talent in the visual arts is not possible or perhaps even desirable. Based on the multitude of definitions used by researchers, selected definitions that may be appropriate for identification of artistically gifted and talented students are suggested. A rationale is presented for using the term *artistically gifted and talented* throughout the paper in reference to students with high abilities in the visual arts.

Culture and Definition. What is considered talent in one culture may not be valued as an indicator of talent in another. The ability to draw realistically, for instance, may be valued highly in one culture and not valued in another. A student, therefore, can be identified as talented only in areas that a culture values (Feldman & Goldsmith, 1986; Gallagher, 1985; Greenlaw & McIntosh, 1988).

Student Characteristics and Definition. Claims about characteristics of gifted and talented students in the visual arts are varied and contradictory (Clark & Zimmerman, 1983, 1984a). There are many ways to describe and categorize characteristics of students with talent in the visual arts, and no one set of characteristics can adequately or definitively describe all covert or overt manifestations of art talent.

Both authors contributed equally to this manuscript. Their names are listed alphabetically.

Creativity and Definition. The concept of creativity often is poorly understood and poorly defined in the literature on gifted and talented students. Researchers have used conceptual definitions and operational definitions of creativity to study the relationship between creativity and art talent (Gallagher, 1985; Torrance, 1963; Kennick, 1970; Khatena, 1982; Khatena & Morse, 1990). Recently many educators have questioned the utility of using creativity measures to identify students with art talent.

Skills, Cognitive Abilities, Affective Abilities, and Definition. Some researchers posit that well-developed drawing skills, high cognitive abilities, affective intensity, and interest and motivation should be included as indicators of art talent and assert that these various factors or skills should be included as dimensions of a definition. They may or may not be present, however, at the same levels in any student at any given time (Gardner, 1989; Jellen & Verduin, 1986; Renzulli, Reis, & Smith, 1981; Stalker, 1981).

Potential and Process Versus Performance and Product in Definition. It is important to consider potential and processes, as well as performances and products, as factors to be accommodated in a definition of art talent. Although definitions of talent in the arts often include abilities needed to produce a superior final product, a number of psychologists and educators have recommended greater attention to processes that may lead to a product or performance (Gardner, 1990; Getzels & Csikszentmihalyi, 1976).

Art Specializations and Definition. Authors recently have challenged current popular beliefs about a single construct of intelligence (Dixon, 1983; Gardner, 1983; Sternberg, 1985). Within various arts areas, different behaviors and abilities are often required for success, and intelligence required for success in the arts cannot be described adequately as a single characteristic (Barron, 1972; Csikszentmihalyi & Getzels, 1973; Hurwitz & Day, 1991).

Distribution and Definition. Talent in the visual arts should be conceived of as normally distributed across all students and adults with superior talent at the upper end of the distribution and those with below average abilities at the lower end (Clark & Zimmerman, 1984a, 1984b; Sarason, 1990). Professional acceptance of the conception of talent in the visual arts as normally distributed could lead to new and substantially different identification criteria and procedures for artistically gifted and talented students.

Identification of Talents in Art

The strong relationship between standardized testing and identification of intellectually gifted students has a long history (Clark & Zimmerman, 1984a; Gallagher, 1985; Martinson, n.d.). As the concept of intelligence has been extended to include other kinds of abilities and skills (Gardner, 1983; Marland, 1972), however, dependence on standardized tests as sole identification measures has been challenged.

Standardized Testing and Identification. In the visual arts, there are a few nationally standardized tests, although questions have been raised about their usefulness (Buros, 1972). A few nationally available rating scales for specific art behaviors do exist and have been used with some success (Keirouz, 1990). It has been suggested that standardized art assessment measures available at the state level should be used with caution (Hamblen, 1988; Hausman, 1988).

IQ, Creativity, Achievement Tests, and Identification. There are a number of common misunderstandings about relationships among IQ tests, creativity tests, achievement tests, and identification of art talent. Arbitrary separation of intelligence and art performance has been questioned for many years (Arnheim, 1969). In the past, a number of researchers have demonstrated that many high IQ students also are highly able in the arts and most highly able arts students also have high IQs. Not all students with high IQs possess art talent, although a higher than average IQ has been described as a necessary condition for acquiring advanced techniques and skills required for superior arts performance (Luca & Allen, 1974; Schubert, 1973; Vernon, Adamson, & Vernon, 1977). Creativity, as measured on creativity tests, and various art abilities are separate and some researchers have shown them to be only nominally related to art talent (Gardner, 1990; Guilford, 1967; Wallach & Kogan, 1965).

Backgrounds, Personalities, Values, and Identification. Students from diverse backgrounds, including minority students and students from economically disadvantaged groups, usually are under-represented in identification processes for gifted and talented programs (Richert, 1987). Life history information has been used to predict art talent, achievement, and leadership ability and claims have been made that such information is more culturally fair and less racially biased than traditional measures (Ellison, Abe, Fox, Coray, & Taylor, 1976; Khatena & Morse, 1990).

There is a paucity of research about identifying arts students for gifted and talented programs based on their personalities, values, and backgrounds. There has been research about talented art students' modes of representation, personalities, and values orientations, although a recent study both challenges and corroborates claims from past research about backgrounds, personalities, and values of such students (Beittel & Burkhart, 1963; Burkhart, 1962; Clark & Zimmerman, 1988; Getzels & Csikszentmihalyi, 1968; Scott, 1988).

Age and Identification. Advocates for gifted and talented education have often debated about age and appropriate uses of formal identification procedures. Some claim that art talent will emerge in young children and can be recognized early; others claim art talent will emerge only among relatively few young students whose life experiences, background skills, and knowledge make it possible (Bloom, 1985; Clark & Zimmerman, 1984a). There also is disagreement among art educators about age, identification, and early educational intervention. In all arts areas, there are enough differences within various specializations to raise serious questions about generalized identification programs.

Multiple Criteria and Identification. Most current writers are unanimous in support of using multiple criteria systems in identification programs for all gifted and talented students. Multiple criteria identification systems also have been advocated in the area of gifted and talented visual arts education (Boston, 1987; Chetelat, 1981; Elam, Goodwin, & Doughty, 1988; Hurwitz & Day, 1991; Saunders, 1982; Wenner, 1985). Sensitivity to the knowledge that students may have multiple gifts and talents in several arts areas, and specializations within one, also has prompted the use of multiple criteria systems as identification processes for specialized arts programs (Khatena, 1989; Krause, 1984).

Recommended Practices for Identifying Artistically Gifted and Talented Students

Most programs for artistically gifted and talented students use some combination of two or more identification procedures for selection; nominations of various kinds account for more than one-half of all procedures used in programs (Bachtel, 1988). Administrators considering implementation of a program for artistically gifted and talented students need to make decisions about program size, character and purposes, intended population, and available funding before identification decisions are made. Choosing appropriate screening procedures for identifying artistically gifted and talented students should be considered in light of a decreasing applicant pool. A first-come-first-served procedure would be least selective, followed by non-structured nominations, students' desires and interests, structured nominations, academic records and achievement test scores, informal art tests or work samples, and reviews of slides or videos. Portfolio reviews, auditions, interviews, and observations would be most selective and most costly to administer.

Non-structured Nominations. Non-structured nominations simply ask nominators to recommend prospective students. These nominations can provide valuable insights if they are appropriate to program goals, clear and easy to use, and easily assessed by program staff. A measure of student desire and interest is recommended as the most salient non-structured indicator for identification of artistically gifted and talented students.

Structured Nominations. Structured nomination forms provide more useful information than open nominations because they require that the same information be reported for each applicant and thus can be compared and tailored to stated purposes and goals of a program. It is recommended that specific program purposes and goals guide preparation of structured nomination forms to ensure efficient and effective identification.

Group IQ, Achievement Tests, and Academic Records. Content of group IQ and achievement tests may not be suitable as single identification measures for identifying gifted and talented students in the arts, although the great majority of students who qualify for advanced level art classes are often students with superior grades and high intelligence.

Standardized Art and Creativity Tests. Currently available standardized visual arts tests are not recommended because many questions have been raised about their appropriateness for identification of artistically gifted and talented students. Caution in the use of creativity tests for the purpose of identifying artistically gifted and talented students is recommended. There are no reports of the validity of creativity tests in predicting success in visual arts programs.

Informal Art Instruments. Many administrators of local visual arts programs administer group drawing tests and/or ask students to submit slides or a portfolio of their art work as identification procedures. Criteria used for scoring group tests and other application materials are idiosyncratic, and informal art instruments vary greatly in their ability to predict success in a program, yet they can be valuable as part of a larger set of identification procedures.

Portfolio and Performance Review. Advantages are described for being able to view and critique each student's work in person. To ensure both similar interpretation of criteria and that all candidates are screened as fairly as possible, students should be told all requirements and judgment criteria in advance. Judges should be educated to use portfolio reviews equitably and they should attend to potential, as well as demonstrated superior abilities. There is a move toward using portfolios that contain students' work in process as part of an identification process.

Interview Procedures. Program designers should create interview protocols to assure that specific information derived from interviews will identify students who are best suited to the program offered. Upon completion of an interview, a biographical inventory checklist can be used to summarize responses from application materials, observations, and interviews. Interviewers should have opportunities to examine each candidate's application materials prior to an interview. They should familiarize themselves with strengths, goals, and other aspects expressed by candidates and tailor questions to individual student interests and needs.

Observation Procedures. Trained observers can be very accurate in identifying artistically gifted and talented students based upon observing students working in classrooms and other settings. Observation, however, is costly and requires trained, perceptive observers who are not regular participants in a student's environment.

Age/Grade Procedures. It is important that multiple criteria systems be used at appropriate age/grade levels. Recommended identification procedures need to be matched against appropriate age/grade categories. Therefore, in this paper, all recommended practices are hierarchically arranged as steps in an identification program and in terms of their most appropriate age/grade applications.

Conclusions and Recommendations

There are still many limitations to successful identification of artistically gifted and talented students. Although there has been some progression from using single identification instruments to using multiple criteria systems, decisions about which measures to use are often based on armchair speculation. Currently, there are no agreed upon criteria derived from research findings about interrelationships of these measures and this is one of the reasons why a diverse battery of identification procedures is highly recommended. Many questions have been raised, that remain to be answered, about definitions of talent in the visual arts. Identification issues need to be further researched to help guide future design and create more appropriate procedures for screening and identification of artistically gifted and talented students.

Recommendations for Identifying Gifted and Talented Students in the Visual Arts

The following recommendations are derived from review of issues and practices related to identification of gifted and talented students in the visual arts. Each recommendation is followed by a brief discussion and suggestion for future research.

Recommendation One: The term *artistically gifted and talented* is recommended for purposes of research and practices relative to the identification and education of students with high ability in the visual arts.

Discussion: Rather than separating the terms *gifted* in reference to intellectual abilities and *talented* in reference to art abilities, the interdependence of these terms should be demonstrated by linking them in the term *artistically gifted and talented*. This linkage places education for artistically gifted and talented students on an equal basis with intellectually gifted and talented students, rather than relegating high ability art students to merely technical or creative pursuits considered as independent of intellectual abilities. The research implication is that art talent should be conceived of as multi dimensional with emphasis on cognitive complexity, as well as affective intensity, technical skills, and interest and motivation in the arts.

Recommendation Two: Art talent, like intelligence, should be conceived of as normally distributed with students with highly developed art abilities at one end of the distribution and students with poorly developed art abilities at the lower end of the distribution.

Discussion: A number of education researchers have speculated that art talent, like intelligence, probably is normally distributed. Acceptance of the concept of art talent as normally distributed would require conceptions of low, average, and high levels of behaviors and performance, as well as appropriate educational experience for students at each of these levels.

Professional acceptance of the concept of art talent as normally distributed should lead to new and substantially different identification criteria and procedures in which artistically gifted and talented students are able to be identified as separate from the general population. Researchers, therefore, should concentrate their efforts on clearly defining qualitative levels of behavior and performance within the distribution of talent among students.

Recommendation Three: Caution should be exercised in using creativity tests as a means of identifying artistically gifted and talented students.

Discussion: Creativity tests are used to measure problem solving skills and divergent thinking abilities applicable to a variety of situations. Many contemporary researchers and writers, however, have asserted that the concept of creativity often is poorly understood and poorly defined and that there are no reports of the validity of creativity tests in predicting success in gifted and talented programs for students with high abilities in visual arts. There is an apparent need to analyze past research, and conduct new research, about creativity tests in respect to their conceptual and operational definitions and their relationships to identification of artistically gifted and talented students.

Recommendation Four: Identification of artistically gifted and talented students should be based upon attention to student potential and work in progress, as well as final performance and products.

Discussion: Many programs for artistically gifted and talented students are based upon defining art talent as the ability to create a superior product or perform in a distinguished manner. Many art educators are now eliminating such requirements; they are expressing concern for students' interest and desire to participate and their potential for performance. Researchers will be challenged to develop methods of identifying students with potential to perform at high levels of ability in the visual arts and at same time access emerging skills, cognitive abilities, and affective abilities through work in progress, as well as final products.

Recommendation Five: Currently available standardized art tests should not be used to identify students with high abilities in the visual arts.

Discussion: Naturally standardized art tests have been evaluated by numbers of reviewers, and questions have been raised about their usefulness as measures of art abilities. There are presently no standardized art tests that can be used confidently to identify artistically gifted and talented students. It is recommended that researchers develop effective alternatives to standardize art testing, such as process portfolios, work samples, and biographical inventories.

Recommendation Six: Students' backgrounds, personalities, values, and age need to be studied as factors in identification of art talent.

Discussion: Students from diverse backgrounds, including minority students and students from economically disadvantaged groups, usually are under-represented in programs for artistically talented students. All students differ in their interests, learning styles, rates of learning, motivation, work habits, and personalities, as well as their ethnicity, sex, economic backgrounds, and social class, and it is characteristics such as these that many standard identification procedures ignore.

There are researchers who claim that visual art talent will emerge in young children and can be recognized early, and others who claim visual art talent will emerge only among relatively few young students. All of these claims, and others like them, have not been verified and have led to obvious problems of generalization. There is a need for researchers to develop alternative guidelines to be developed relative to each of these claims.

Recommendation Seven: Use of multiple criteria systems is recommended in all identification programs for artistically gifted and talented students.

Discussion: When multiple criteria systems are used for identification programs, they should include diverse measures of various aspects of student backgrounds, behaviors, skills, abilities, achievements, personalities, and values. This is important because different students, at different ages, and from different backgrounds respond optimally to different types of tasks. Another justification for using multiple criteria systems is awareness of the need and desirability to select students appropriately matched to the purposes and content of a specific program. Although there has been a progression from using single identification instruments to using multiple criteria systems, decisions about which measures to use, what criteria are appropriate, and how these measures interrelate have not been established through research. In order to proceed with this recommendation, such research is required.

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ISSUES AND PRACTICES RELATED TO IDENTIFICATION OF GIFTED AND TALENTED STUDENTS IN THE VISUAL ARTS

Gilbert A. Clark, Ph.D.
Enid Zimmerman, Ph.D.
Indiana University
Bloomington, Indiana

Introduction

> I have no recollection of when I began to use that gift. But I can remember, at the age of four, holding my pencil in the firm grip of a child and transferring the world around me to pieces of paper margins of books, bare expanses of wall. (Potok, 1972, p. 11)

Near the beginning of Chaim Potok's book, *My Name is Asher Lev*, the principal character explains his life-long obsession with creating images. Later in the book, he describes his uncontrollable need to create art that led to his drawing in a holy book, thus defacing it. Although Asher Lev's story is fictional and represents an extreme case of a young artist's development, there are many young people across the country who share his overwhelming desire and interest to create expressive imagery. Unfortunately, many of these young people are not provided the support or instruction they need to bring their interests and potential abilities to fruition. A beginning step in helping young people with a burning desire to participate creatively in the visual arts is to recognize their potential and help develop their skills and abilities to express themselves.

In 1972, children capable of high performance in the visual and performing arts were identified, in the Marland report, as a subgroup of gifted and talented students. The Marland report contributed greatly to implementation of the Special Projects Acts of 1975 (Public Law 93-380) and the Gifted and Talented Children's Education Act as part of Public Law 95-561. These laws called attention to the definition of gifted and talented. In 1978, Congress revised Marland's definition and stated that the gifted and talented are:

> children and, whenever applicable, youth who are identified at the pre-school, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capability in areas such as intellectual, creative, specific academic or leadership ability or in the performing and visual arts, and who by reason thereof require services or activities not ordinarily provided by the school (Public Law 95-561).

More recently, the Jacob K. Javits Gifted and Talented Students Education Act of 1988 (Public Law 100-297 § 4003) established the following definition:

> The term 'gifted and talented students' means children and youth who give evidence of high performance capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities.

Both authors contributed equally to this manuscript. Their names are listed alphabetically.

It is our intention to discuss current issues and practices that bear upon identifying gifted and talented students in the visual arts. We will introduce a series of issues related to defining talent, identifying gifted and talented students in the visual arts, and discuss ramifications and current status of these issues. Next, we will relate some of these issues to current practices and generate a series of research recommendations about identifying gifted and talented visual art students based upon issues and practices reviewed.

Our interest in the problems of identification of gifted and talented art students has its origins in our personal and professional involvement with gifted and talented students in the visual arts. We have taught artistically gifted and talented students at elementary and secondary levels in public and private schools in New York City; San Diego, California; and Bloomington, Indiana. For a decade, from 1980 to 1990, we co-directed a two week, summer residential program at Indiana University for 10 to 16 year old artistically gifted and talented students in the arts from midwestern states and other countries, such as Singapore, Brazil, Thailand, Spain, Vietnam, and Malaysia. We and others conducted research that involved talented art students attending this program, as well as talented art students in private and public schools at the elementary and secondary levels.

In 1984, we co-authored *Educating Artistically Talented Students* and, in 1987, *Resources for Educating Artistically Talented Students*. In the years since these books were published, there has been a heightened interest in education of students who are artistically gifted and talented. Concurrently, we and others have written about problems of defining, describing, screening, and identifying gifted and talented students in the visual arts, as well as about program development for such students. Our concerns about the issue of identifying gifted and talented students in the visual arts are based upon our history as professionals and our devotion and dedication to improved education for gifted and talented art students. Our primary expertise lies with students talented in the visual arts; therefore, most examples in this paper will be about the visual arts, although some references also will be made to other arts areas. In this paper, many of these issues are categorized and discussed separately, but they are not to be considered mutually exclusive; we recognize that they are all interrelated.

Definition of Talent in the Visual Arts

There are no agreed upon definitions of the terms *gifted* or *talented*. As used in common language, the term *gifted* often refers to students who have superior intellectual abilities and the term *talented* usually refers to students with superior abilities in the visual and performing arts. Teachers often describe their outstanding students as *gifted* in academics or *talented* in the arts. In standard dictionaries, however, these terms are used interchangeably. In Webster's dictionary (Gove, 1986), for example, *gifted* is defined as "(1) endowed by nature or training with a gift: as (a) having a special talent or other desirable quality... (b) having superior intellectual capacity. (2) reflecting or revealing a special gift or talent" (p. 956). In the same dictionary, *talented* is defined as "having talent: possessing special aptitude: mentally gifted: accomplished" (p. 2333) and musicians and young actors are given as examples of *talent*.

The terms *gifted* and *talented* have been preempted by researchers and educators to have other meanings. *Gifted* has often come to mean having superior intellectual abilities and *talent* has been defined as possessing specific abilities in a single area of endeavor, such as mathematics or science. In the *Seventy-eighth NSSE Yearbook* (Passow, 1979), in all articles except one, the terms *gifted* and *talented* are used with these meanings. The education of artistically gifted and talented students often is not included in many books and journals about gifted and talented students and their education. When the arts are referred to in this literature, they are described in reference to high achievement within a particular aspect of the visual and performing arts, such as playing a violin, composing music, or drawing figures. Abilities associated with the arts, unlike mathematics and science, often are considered subject specific and not requiring intellectual abilities.

The term *gifted*, even when associated with IQ scores, is often poorly defined and many different recommendations for the use of specific cut-off scores to define giftedness are common (Zettel, 1979). There are, of course, many challenges to any definition based upon IQ scores, and alternative measures have been developed and implemented. There is even less agreement about definition of the term *talented* by researchers and writers in the field of gifted education as applied to talents in the visual and performing arts. We, like Treffinger and Renzulli (1986), consider definition, identification, and programming to be interlocking concerns and discussion of identification issues cannot proceed without discussion of definitions of talent in the visual arts.

In a review of research, based upon 25 studies of identification procedures and instruments for gifted and talented visual art education programs, Boston (1987) concluded that "Giftedness in visual art is prudent... however, the criteria on which to identify students as being exceptional, intelligent, or talented in this subject area have yet to be agreed upon" (p. 1). In the *National Report on Identification* (Richert, Alvino, and McDonnel, 1982), it was revealed that there is confusion about the definition of giftedness and a prevalence of inappropriate, non-research-based identification procedures that exclude many gifted students from services they need to develop their potentials. This has been found to be true especially for students from economically disadvantaged families and minority groups (Richert, 1987).

The term *talent*, as used by art educators, generally refers to high ability students in a specific visual art area. Few agree, however, on how to define what constitutes high abilities in the visual or performing arts. One function of this lack of agreement about definition is that recommendations for identification for specific programs tend to be idiosyncratic (Bachtel, 1988; Zettel, 1979). Another function is that current writers have moved away from any single criterion or definition and have endorsed multiple criteria identification measures (Clark & Zimmerman, 1984a, 1987; Gallagher, 1985; Renzulli & Reis, 1985; Renzulli, Reis, & Smith, 1981; Renzulli & Smith, 1977). A third function has been to avoid a generalized definition by specifying program content and goals and selecting only students whose abilities would be served by the specific character of a program (Gallagher, 1985; Greenlaw & McIntosh, 1988; Parker, 1989).

We are using the term *artistically gifted and talented* to indicate high ability in the visual arts. Our rationale is that a frequent distinction is made between *giftedness*, associated with intellectual abilities, and *talent*, that represents other types of skills or aptitudes. Gagne (1985) attempted to differentiate between concepts of *giftedness* and *talent* by presenting *giftedness* as "exceptional competence in one or more domains of ability [intellectual, creative, socio-emotional, sensori-motor] and *talent* as exceptional performance in one or more fields of human activity" (p. 111). He recognized, however, a "multidirectionality of relations between giftedness and talent" by explaining that "each specific talent is expressed by a particular profile of abilities" (p. 110). His dichotomizing of general domains of ability and specific talents resembles the old and familiar categorization of G [general] and S [special] abilities. Gagne's definitions of *gifted* and *talented* lose power, however, in light of examples he offered which were not coherent or complete. He claimed that technical abilities, but not creative abilities, are important in such tasks as interpreting a musical score or repairing an automobile. He also claimed that divergent thinking did not play a primary role in such talent areas as sports or theatrical interpretation. Gagne then proposed substituting the term *gifted or talented* for the more usual term *gifted and talented.* We believe that, rather than separating the terms *gifted* and *talented*, he should have been advocating their interdependence by linking them in the term *gifted and talented.* Such linkage serves to place education for artistically gifted and talented students in the arts on an equal basis with gifted and talented students in such areas as mathematics and science, and not relegated to merely technical or creative pursuits that can be thought of as independent of intellectual abilities. By using the term *artistically gifted and talented*, therefore, we support Carroll's (1987) contention that giftedness should be synonymous with inclusion of the arts and that artistically gifted and talented students need to be identified and provided the same levels of support as academically gifted and talented students. Carroll described our past use of the term *artistically talented students* as limited and indicating a false dichotomy between conceptions of giftedness and talent. In addition, as we will explain, if all students are viewed as having some degree of arts talent, then the term *artistically gifted and talented* denotes a high degree of such talent.

As educators we are aware that a true definition of *talent* in a philosophical sense would guarantee meaningful discussions and arguments about students' abilities. We are also aware that talents in the visual arts are manifested in many ways and forms. They can be manifested in processes or potential, as well as in performances or products, and also are evidenced in creative expression, problem solving skills, abilities to produce adult-like products, or personality characteristics and values.

Is a true definition of *talent* possible, with accompanying research examples, for identifying gifted and talented arts students? Weitz (1961) argued for an open-ended definition of the visual arts and concluded that a definition is impossible because there cannot be a true statement of all necessary and sufficient properties of all works of art. He concluded that the greatest contribution of theories of art is not in their definitions, but in their teachings. Different theories represent different sets of criteria that serve to remind educators what needs to be attended to and what may have been neglected. Teachers, he believed, should go to theories for suggestions about how to teach rather than for true definitions. We believe a true or conclusive definition of talents in the visual arts, to be used to identify students for gifted and talented programs, is not possible or perhaps even desirable. We will present current research based on a multitude of definitions used by various researchers in the fields of art education and gifted and talented education and suggest parameters for definitions that might be appropriate at this time for identification of artistically gifted and talented students.

Culture and Definition

Feldman and Goldsmith (1986), writing about case studies of six child prodigies in music, chess, mathematics, foreign language, and creative writing, stressed that "cultures vary in the importance they attach to mastery of different domains at different times" (pp. 13-14). Therefore, what is considered *talent* in one culture, such as being able to copy art works well, may be not be valued as an indicator of talent in another. Artistically gifted and talented students in the visual arts are dependent upon instruction about art forms that can be communicated effectively within their cultures. Feldman and Goldsmith (1986) claimed that without access to a symbol system through which artistically gifted and talented students can express their potential, as well as a domain of knowledge that values the symbol system, potential talent cannot be brought to fruition. Only those areas of expression in art valued by a culture are developed sufficiently to have organized symbol systems and domains that are available to artistically gifted and talented students. A student, therefore, can only come to be identified as talented in areas that a culture values (Feldman & Goldsmith, 1986; Gallagher, 1985; Greenlaw & McIntosh, 1988; Zimmerman, in press b).

Student Characteristics and Definition

Claims about characteristics of students who are artistically gifted and talented are varied and contradictory (Clark & Zimmerman, 1983, 1984a). There are many reasons for this; researchers working in different times and places have placed value on different sets of characteristics. At one time, a specified IQ as a single numeric value was considered sufficient to select students for varying kinds of gifted and talented programs. Today, there is more sensitivity to the meaning and use of IQ scores to identify students with certain characteristics to be served within specific programs.

Characteristics of artistically gifted and talented students have been categorized in a variety of ways. Although observing art products for evidence of visual art talent is common, it also is possible to observe behaviors that may indicate a predisposition to create art or behaviors that are apparent when students actually create art. We analyzed over 75 years of claims from research about characteristics of artistically gifted and talented students and, using content and comparative analyses, grouped these claims. Observable characteristics of student art products and observable behaviors of students were the two large categories that emerged from this analysis (Clark & Zimmerman, 1984a, 1984b). In the first category, characteristics of art products of artistically gifted and talented students included compositional arrangement, art elements and principles, subject matter, art-making skills, and art-making techniques. In the second category, observable behaviors of students with superior art-related abilities were described in two sub-categories of *predispositional behaviors* and *observable process behaviors*. Predispositional behaviors included generalized, art-related, art talent/intelligence, and art talent/subject matter behaviors. Observable process behaviors included art production and art criticism behaviors. Hurwitz and Day (1991) referred to task commitment and cognitive, artistic, and creative characteristics of art students as ways of defining what they term 'artistic intelligence.' Jellen and Verduin (1986) presented categories of behaviors for what they termed 'identification of exceptionality' in cognitive, affective, and conative domains, although they do not refer specifically to art talent. They contend that the nature of giftedness should be defined as a mental construct rather than a single concept and that cognitive, affective, and conative abilities contribute to a multifacted definition of giftedness. According to Jellen and Verduin, cognitive operations bring awareness to complex and abstract information processes; affective operations are emotional sequences that "vary in intensity, similarity, and polarity; and conative operations... supply the motive power to all activities that are the means to the attainment of desired ends (p. 5). These observations also describe aspects of performance in the visual arts.

Other examples could be offered; it is clear, however, that there are many ways to describe and categorize characteristics of students with talents in the visual arts and no single set of characteristics will adequately or definitively describe all covert or overt manifestations of such talents. This would be neither possible nor desirable. It appears necessary and worthwhile to discuss issues relating to some of these characteristics as they bear directly upon identification of art talents.

Creativity and Definition

The concept of *creativity* often is poorly understood and poorly defined (Wallach & Kogan, 1965), and there are a great number of definitions of the term *creativity* offered in gifted and talented literature (Gallagher, 1985). Many definitions of creativity are idiosyncratic to the persons writing the definitions (Lowenfeld & Brittain, 1987), are not based upon research about creativity, and there is no adequate definition of *creativity* that can be measured by a test (MacRae & Lupart, 1991).

As used in common language, the term *creative* is often used to refer to a student who is able to rearrange and integrate objects and ideas into a pattern that is new for him or her, but that often is a manifestation of a normal developmental process. In visual art classes, for example, young students who produce drawings with x-ray views or multiple perspectives often are viewed by art teachers as being imaginative or "creative" when, in reality, they are evidencing normal passage through the symbolic stage of art development. In standard dictionaries, such as Webster's (Gove, 1986), the term *creative* is defined as "(1) having the power or quality of creating: given to creation (2) productive - (3) having the quality of something created rather than imitative or assembled: expressive of the maker: imaginative" (p. 532). These definitions mirror, to a great extent, how definition of the term *creative* has evolved in common language usage.

Researchers and educators have cast definitions of *creativity* as either conceptual, that set forth descriptions, or operational, that set forth procedures to assign values by means of assessment. In respect to conceptual definitions of *creativity*, several educators have described conditions for the creative process and products produced from the process. Gallagher (1985), for example, has written that, "Creativity is a mental process in which an individual creates new ideas or products, or recombines existing ideas or products, in a fashion that is novel to him or her" (p. 303). Torrance (1963) argued that creativity is "the process of sensing gaps or needed missing elements; of forming ideas or hypotheses concerning them; of testing these hypotheses; and of communicating the results, possibly modifying and retesting the hypotheses" (p. 90). These and other conceptual definitions of creativity require that the creative process and product be qualitatively better than those that preceded it and appropriate to a given solution (Arnold, 1962; Kneller, 1965). Kennick (1970) argued that the concept of creativity is not a psychological one. According to Kennick, "Most writers on creativity speak of the 'creative process,' meaning, usually, what happens or 'goes on' in the artist's mind when he creates a work of art. But processes are not acts, although such processes... may involve or consist of a series of acts" (p. 242). Given any creative act "it is inductively certain that the product of such an act be original, something that differs qualitatively in some way from the product of all other creative acts" (p. 253). In applying this definition of *creativity* to students' acts, it is rare that students create a work of art that is original; appropriate, and qualitatively different from that of their peers or from other creative products such as works of art. Unless they are prodigies, students cannot make original, appropriate, and qualitatively different products than those they have previously created or those created by their peers, although they can, as Gallagher stated, create processes or products that are novel to themselves.

Other psychologists, in the area of gifted and talented education, have set forth operational definitions of creativity. According to Getzels and Jackson (1962), "creativity refers to a fairly specific type of cognitive ability reflected in performance on a series of pencil and paper tests" (p. 16). Khatena (1982) wrote about the difficulty of defining creativity in operational terms:

> Creativity is a complex construct that is the source of apprehension and misgivings, especially in terms of measurement correlates. There is considerable lack of agreement over the definition of the term because the word creativity has, through usage, become associated with many aspects of creative behavior and mental functioning, ranging along a cognitive and emotive continuum. Hence, any attempt to construct measures to identify creative talent must begin with a precise definition of the term. (p. 75)

Khatena (1982) reported a large number of tests, checklists, questionnaires, and inventories used to identify creative individuals that are based on operational definitions of creativity. Khatena and Morse's *Multitalent Perception Inventory* (1990, 1992), for example, is based on the concept that "the highly creative or original individual is very often known to be versatile in talents" (1990, p. 1268). A versatility index can, according to the authors, be constructed to measure creative personality and two measures of originality based on self-perceptions of past experiences relative to leadership, music and art, and creative talent.

Although the term *creativity* is defined in a variety of ways, it is often cited as a necessary concomitant to talents in the arts; a gifted and talented child is *ipso facto* considered creative by many writers and teachers (Brittain, 1979; Brooks, 1986; Hurwitz, 1983; Khatena, 1982; Kulp & Tarter, 1986; Lowenfeld & Brittain, 1987; Parker, 1989). Although the Marland report (1972) differentiated between giftedness in creative and productive thinking and giftedness in the visual and performing arts (as well as other categories of giftedness), many writers in the field still confound these categories. In fact, 49% of programs for artistically gifted and talented students reviewed by Bachtel (1988) used measures of creativity and it was the fourth most popular selection criteria chosen for identifying students talented in the arts.

In 1984, we discussed issues of definition of creativity and the confounding of creativity and talent in the arts and cautioned against using measures of creativity as part of an identification program for artistically gifted and talented students. Martinson (n.d.) has asserted that creativity test results were used in identification programs far more often than their use is recommended by experts. Recently, other writers have questioned the utility of using creativity measures to identify students as gifted. Renzulli (1982) has stated that "creative performance on a test of divergent thinking may have little or no relation to creativity in a person's life work" (p. 211) and high scores on creativity tests, according to Crockenberg (1972), have questionable value, lack validity, and do not correlate with other measures of school performance, including performance in the arts.

Skills, Cognitive Abilities, Affective Abilities, and Definition

A germane question involves whether skills and affective and cognitive abilities should all be accounted for in a definition of talents in the arts or whether any of these would be sufficient singly as an indicator of talent. Some writers, such as Szekely (1981), contended there might be two separate indicators of talent in the visual arts and either might be used for identification purposes. One indicator is when a student exhibits above average skills (is at an advanced developmental level in terms of drawing ability and is able to draw images believably without reliance on formulas or copying) and another is when a student generates original ideas, inventions, and innovations in his or her own art work but has less skill in image making. Still another indicator that Szekely failed to discuss is when a student is able to combine both well developed drawing skills *and* high level cognitive abilities. There also are some researchers who posit, along with well developed drawing skills and high cognitive abilities, that a third factor of affective intensity also should be included as an indicator of art talent. Stalker (1981), in a summary of her research, included cognitive complexity, manifested as generating many solutions to problems; executive drawing ability, manifested as superior skill in drawing; and affective intensity, manifested as strength of emotional responses with respect to feelings and reactions and ability to make judgments about them, as parts of her definition of visual art talents. She explained:

> To succeed as an artist not only is it necessary to possess executive drawing skill, and cognitive complexity; it is also important to have a high level of perseverance partly because of obstacles and problems that accompany a non-traditional career choice. Perseverance is reflective of a high level of motivation. (p. 50)

Jellen and Verduin (1986) did not address problems of identification directly, but did address operational concepts that define gifted students, including those talented in the arts; they used three inclusive domains: cognitive (intelligence and imagination), affective (empathy and sensitivity), and conative (interest and motivation). These seem to be somewhat parallel to Renzulli's (1978) more familiar factors of above average ability, creativity, and task commitment.

If any of these constructs are accepted as possible and necessary dimensions of a definition of art talent, many problems still remain. Gardner (1989) pointed out that "there are separate developmental sagas which govern skills of perception, reflection, and critical judgment... the orchestration of perceptual, productive, and critical skills turns out to be a complex undertaking" (p. 160). Gardner's three skill areas bear great similarity to categories of cognitive skills and affective and conative abilities just described. According to Gardner, development in any one of these skills areas or talents proceeds separately during the years of a student's greatest development; they may or may not be present at the same levels at the same time, although potential for gifted performance may be latent in one or all of them.

Potential and Process Versus Performance and Product and Definition

Controversy about identification solely on the basis of clearly demonstrated superior abilities in any area of endeavor, and not on potential or processes involved, is advocated by some and criticized as biased by others. Gowan (1977), Harris (1963), and Swassing (1985) have described research and practices in gifted education in the 1920s and, from their writings, it is evident that it was not uncommon for definitions and identification programs to focus on selecting students with clearly demonstrated superior abilities. By the end of that decade, however, criticism of these practices arose and charges of elitism and lack of fairness were expressed by many writers such as Lippman (cited in Block & Dworkin, 1976) and Witty (1936).

Today, however, many programs for artistically gifted and talented students are based upon defining art talent as the ability to create a superior product or perform in a distinguished manner. Such programs have studio portfolios or performances in conjunction with other identification methods as a requirement for acceptance, that are judged by local staff members, often including an appropriate artist. Superiority of performance clearly is weighted heavily in selection of students to be invited to participate in these programs (Elam, Goodwin, & Doughty, 1988; Illinois State Board of Education, 1991; Martinson, n.d.; Raby, 1988). Conversely, some arts educators now are eliminating such requirements; they are expressing concern for students' interests and desire to participate and for their potential for performance and, as a result, offering programs with open-door, or first-come and first-served policies for students with potential talent in the arts (Bachtel, 1988). Hurwitz and Day (1991) described an open-door policy of a large school district that:

> administers a gifted and talented school with children whose parents have nominated them. No tests, reviews, grades, portfolios, or requirements are utilized. Their belief is that

> children who are ready for a fast-paced and enriched school program will fit well at this school, and that children who are not ready will prefer a regular school. (p. 134)

Despite the presence of such programs and a conception that places emphasis on potential and processes, Gallagher (1985) claimed a general trend in gifted and talented education today in the opposite direction: "one alternative definition of gifted children now in use is based on actual superior performance rather than on measures of potential or aptitude" (p. 28).

Although definitions of talents in the arts often emphasize a superior final product, a number of psychologists and educators have emphasized attention to processes that may ultimately lead to an outstanding product or performance. They claim that the processes students select and pursue are *more* important to the definition of gifted and talented performance in the arts than the products students create. An ability to depict the world believably is certainly only one indicator of visual art talent; use of paradoxes, puns, metaphors, and deep emotional involvement may be others (Tannenbaum, 1986; Zimmerman, in press b). Gardner (1990) and Wolf (1989) have stressed the importance of using process portfolios at elementary and secondary levels to assess learning in the arts that occurs over time. Evidence of student progress and achievement, collected in visual arts classes can include letters, poems, essays, art works created with a range of visual art media and techniques, works in progress, sketches and completed works, journal entries and other forms of reflection, and teacher, student, and peer commentaries. Getzels and Csikszentmihalyi (1976) studied college level art students and relationships between their problem-finding behaviors and the originality of their visual art works and concluded that students' methods of discovery, envisaging, and delving deeper into productive questions often were far *more* indicative of high abilities than were their solutions to actual problems. Students who became concerned with problem finding at the problem formulation stage, however, often produced the most original art products. Although this study was done with college level art students, it may have relevance with other current research into the importance of considering potential and processes, as well as performance and products when defining and identifying students talented in the arts at elementary and secondary levels.

Art Specialization and Definition

Until recently, intelligence was viewed by many as a single, measurable entity. In 1967, however, Guilford summarized a number of years of research about what he termed a *Structure of the Intellect* model and described 120 factors of intelligence. Three more recent books have challenged current popular notions about a single construct of intelligence. Sternberg, in *Beyond IQ: A Triarchic Theory of Human Intelligence* (1985), described components of intelligence related to giftedness that include abilities to think at high levels, process information effectively, achieve insights and solve problems, and use efficient meta-cognitive process systems. Gardner, in *Frames of Mind: The Theory of Multiple Intelligences* (1983), posited existence of seven intelligences: linguistic, logical-mathematical, musical, spatial, bodily kinesthetic, interpersonal, and intrapersonal. Sternberg's abilities are related to general intelligence, whereas Gardner's description of abilities can be viewed as related to more particular abilities (Feldhusen & Hoover, 1986). In *The Spatial Child*, Dixon (1983), like Gardner, described spatial intelligence as a unique way of knowing. He claimed that the "spatial child" processes information non-verbally and approaches problems to be solved in ways that differ from those of most other students. These and other writers make valid cases for attention to alternative kinds of intelligences that may be exhibited by students being considered for entrance into gifted and talented programs.

Within various arts areas, many vastly different behaviors and abilities often are required for success. Students to be selected to study music composition, for example, would differ substantially from students who would be selected to study performance on an instrument. Similarly, students who have superior drawing and painting abilities may have different sets of developed sensibilities than those who are talented at creating three-dimensional objects. Even within the area of two dimensional visual art, clearly different abilities are needed to be a printmaker, a photographer, a painter, or a political cartoonist.

Csikszentmihalyi and Getzels (1973) studied personalities of young visual art students at the college level and concluded that personalities and abilities of fine arts majors differed substantially from those of advertising and industrial arts majors. Barron (1972) drew similar conclusions based on his studies of arts students and professional actors, writers, dancers, and visual artists. In addition, other professionals in the arts, such as aestheticians, critics, and historians, often require evidence of skills and abilities that differ to a great extent from those required for success in performing or in studio areas. Artists also require general abilities, such as problem solving skills and abilities in areas outside the arts, to support achievements in their chosen fields. An artist working as a graphic designer, for example, needs to use mathematics, language, spatial skills, and personal skills, in addition to specialized art skills, to be successful. Intelligence needed for success in art clearly cannot be defined as a "single characteristic, but as a phenomenon that contains multiple ways of dealing with knowledge" (Hurwitz & Day, 1991, p. 118).

Distribution and Definition

No discussion of issues about defining talents in the visual arts as a concept would be complete without acknowledging how talent is distributed in the world's population. There are a number of popular conceptions about distribution of talent that are not based on research or study of school populations, yet are held by many. These include beliefs that all students have equal potential for displaying talent in the arts or that talent in the arts is something a person simply has; it cannot be taught or learned. Both beliefs are subject to question and have been disputed by research or by knowledgeable speculation of persons working actively in art education and gifted and talented education.

We and others have argued that talent in art should be conceived of as normally distributed among all students in schools and in the adult population, with those considered to have superior art abilities at the upper end of the distribution and those with below average art abilities at the lower end (Clark & Zimmerman, 1984a, 1984b, 1987; Sarason, 1990). The argument is based on many sources and research; several early researchers who studied students' performances in visual art activities, such as drawing, described differing levels of achievement that approach normal distribution within specific age or grade groups (Meier, 1939; Meumann, 1912). In 1981, administrators of the National Assessment of Educational Progress in the visual arts reported normally distributed results among its national sample of 9, 13, and 17 year old students tested for this program. A number of art education researchers, across the years, have speculated that talent in art, like intelligence, probably is distributed normally (Lark-Horovitz, Lewis, & Luca, 1967; Lark-Horovitz & Norton, 1959, 1960; Munro, 1956; Sarason, 1990).

If art talent is normally distributed, there are many implications for identification of art talent. To recognize all students as capable of some level of performance in art seems apparent, yet there are few guidelines to help educators recognize and clearly define qualitative levels of performance within the distribution of talent among students. Acceptance of the concept of art talent as a normally distributed characteristic of students would require conceptions of low, average, and high levels of performance (as in other school subjects), as well as appropriate educational experiences for students at those differing levels. Clearly, all students deserve opportunities to participate in art activities offered in schools at appropriate levels of expectations. Not all students will demonstrate clearly high ability levels, however, and thus qualify for participation in a gifted and talented program in one or more of the arts. There are no standardized arts tests designed specifically to distinguish qualitative levels of performance within specific art areas, although such tests exist in many other school subject areas. Neither are there descriptive scales that can be used to differentiate among levels of talents demonstrated by students, although performance often is used as a screening or identification measure. Professional acceptance of the concept of art talent as a normally distributed characteristic of students should lead to new and substantially different identification criteria and procedures, and a more open-ended definition of art talent that takes into account differing needs of students and programs.

Identification of Talent in Visual Arts

Foundations for identifying gifted and talented students were laid by such men as Binet and Terman, who were pioneers in the development of IQ tests. The strong relationship between standardized testing and identification of intellectually gifted students has a long history (Clark & Zimmerman, 1984a; Gallagher, 1985; Martinson, n.d.). Over time, as the concept of intelligence has been extended to include other kinds of abilities and skills (Gardner, 1983; Marland, 1972), dependence on standardized tests as the only identification measures has been challenged. Obviously, it would be difficult to devise a standardized test for identifying leadership or visual and performing arts abilities even though these have been identified as forms of giftedness in state and federal legislation (Marland, 1972; Zettel, 1979).

Standardized Testing and Identification

Traditional standardized tests usually are easy to administer, take a short amount of time to complete, and carry credibility for many audiences due to their long history of use by school districts and major institutions (Archbald & Newman, 1988). Traditional standardized tests, however, only emphasize basic skills; more important information and concepts usually are not included. Measurement of depth and breadth of understanding is very limited on standardized tests, and integration of various areas of skills and knowledge are often neglected completely. Gallagher (1985) noted that "tests of intelligence traditionally do not include items that measure divergent thinking and evaluative thinking and thus are limited in their full display of intellectual capabilities" (p. 28).

Arguing for the use of locally developed measures, Worthen and Spandel (1991) asserted that standardized tests should play a part in identifying students' abilities, but that local assessment instruments should play a greater role. They caution that traditional standardized tests may be poor predictors of individual student performance, they often do not represent content emphasized in school curricula, they may be used to categorize or label students in ways that have negative effects, they may measure a limited range of student abilities and knowledge, and they are often racially, culturally, and socially biased.

In the visual arts, there are a few nationally standardized tests that have been used to measure preferences for design, drawing abilities, and aesthetic judgment, such as those developed by Graves (1978), Horn (1953), and Meier (1963). These tests have been evaluated by numbers of reviewers, however, and questions have been raised about their usefulness with respect to outmoded items and illustrations, inadequate samples, weak validities, inconsistent scoring, and lack of completeness as measures of art abilities (Buros, 1941, 1949, 1953, 1972; Clark & Zimmerman, 1984a; Eisner, 1972). A few nationally available rating scales and checklists for art specific behaviors, such as the *Scales for Rating the Behavioral Characteristics of Superior Students* (Renzulli, Smith, White, Callahan, & Hartman, 1976), *Khatena's Art Talent Behavior Record* (Khatena, 1982), and the *DeHaan Checklist (*Kough & DeHaan, 1955) do exist and have been used with some success (Keirouz, 1990).

At the state level, about 23 locally designed visual arts achievement tests currently are in use (Sabol, 1991). Most attempts to develop standardized arts tests for use within a state have resulted in emphases on basic abilities that have been used frequently as measures in other content areas, such as memory recall, comprehension, and application, rather than on higher abilities of analyzing information, clarifying meanings, or evaluating facts and ideas (Hamblen, 1988). Most state art achievement instruments do not require students to produce any art work and only contain verbal, multiple-choice items without illustrations due to printing costs and the expense of scoring such non-verbal items. A consultant to art assessment approaches, Hausman (1988), warned that there is an "undue emphasis placed on formalist and factual approaches... that lend themselves only to short term answers and multiple choice, machine scored items" (p. 38).

IQ, Creativity, Achievement Tests, and Identification

There are a number of common misunderstandings about relationships among IQ tests, creativity tests, and achievement tests and identification of art talent. One common misunderstanding is that above average intelligence is not a requirement for superior performance in the arts. The argument is that scores on intelligence tests should not be used as indicators of talent in the arts (Lowenfeld & Brittain, 1964) or that there are children with high musical, art, or mechanical abilities who have average or below-average intellectual abilities (DeHaan & Havighurst, 1961).

It has been shown that such arbitrary separation of intelligence and performance in art has been questioned for many years (Arnheim, 1969; Clark & Zimmerman, 1984a). The issue of IQ test scores in relation to art talent has not been pursued in recent research because the use of IQ tests has been challenged by many educators and researchers, especially in the area of gifted and talented education (Feldhusen & Hoover, 1986; Gagne, 1985; Gardner, 1983; Sternberg, 1984, 1985, 1986; Treffinger & Renzulli, 1986). Despite such challenges, other educators and researchers continue to advocate the use of IQ tests for identification of gifted students, although always in conjunction with other measures (Borland, 1986; Kaufman & Harrison, 1986; Robinson & Chamrod, 1986; Shore, 1987).

A number of researchers have demonstrated that many high IQ students also are highly able in the arts and most highly able arts students also have high IQs, although not all students with high IQs possess art talent (Luca & Allen, 1974; Schubert, 1973; Vernon, Adamson, & Vernon, 1972). A higher than average IQ has been described as a necessary condition for acquiring the kinds of advanced techniques and skills that are required for superior arts performance (Luca & Allen, 1974; Schubert, 1973). Some teachers may describe a student whom they consider to be "artistically gifted and talented" and whom they also identify as having below average intelligence; we believe such a student may appear to be artistically gifted and talented only in respect to others in similar academic ability groups, but not in relation to the total school population. Another possibility may be that such a student may have above average intelligence, but it may not be identified by the measures commonly used in his or her school.

Another common misunderstanding is that creativity, as measured by tests, and art talent are integrally related. During the 1940s, Torrance (1963, 1974) and others developed what became known as creativity tests and creativity became a by-word in gifted and talented and arts education (Renzulli, et al., 1981). Many contemporary researchers and writers, however, have asserted that the concept of creativity often is poorly understood and poorly defined (Robinson & Chamrod, 1986) and that there are no reports of the validity of creativity tests in predicting student success in gifted and talented education programs (Kirschenbaum, 1983). Feldhusen and Hoover (1986) claimed that, for the present, there are no quality tests of creative ability.

As originally designed, creativity tests were used to measure general problem solving skills and divergent thinking abilities applicable to various situations; some educators have used creativity tests to predict or identify art talent. Kulp and Tarter (1986) developed instruments to measure creativity in order to identify students who are highly able in the visual arts. A number of authors subscribe to and endorse using a creativity test to screen or identify students who may be artistically gifted and talented (Greenlaw & McIntosh, 1988; Khatena, 1982, 1990; Parker, 1989). Hurwitz (1983), writing about artistically gifted and talented students, reported the use of two creativity tests and an informal measure of creativity for identification of students as talented in art. It should be noted, however, that Torrance (1972), in his 12 year follow-up study of career patterns of creative high school students, concluded that these students become productive, creative adults. He found, however, that creative achievements in writing, science, medicine, and leadership were more easily predicted by creativity tests than were creative achievements in music, the visual arts, business, or industry.

From analyses by Gardner (1990), Guilford (1967), Lazarus, 1981), Wallach and Kogan (1965), and others, there is much evidence that creativity, as measured on tests of creativity, and various abilities in the arts are separate and only nominally related. Tannenbaum (1986) summarized the problem of linking creativity and giftedness in the arts, and other aspects of giftedness, when he wrote:

> Conspicuously missing in this discussion of linkages between promise and fulfillment is the concept of creativity. Why not place it alongside general intelligence, special abilities, facilitators, environmental influences, and chance or luck? The answer is that it is not additive to these factors but rather is integrated in each of them. In fact, creativity is synonymous with giftedness.... (p. 49)

Tannenbaum pointed out that attempts to factor *creativity* as an entity have not been successful:

> Too often, the quality dimension is overlooked in favor of the offbeat and the profuse, and we forget that what is rare is not necessarily valued. Because it denotes rare *and* valued human accomplishment creativity should be conceptualized as interchangeable with giftedness. (p. 49)

Standardized achievement tests have been developed to measure educational gains in school subjects, such as reading, mathematics, social studies, language arts, and science. One reason standardized achievement tests about the visual and performing arts have not been developed is that the arts are not considered basic subjects in most school districts across the country. Even if standardized achievement tests in art did exist, their usefulness as identification measures of art talent could be questioned. Kirschenbaum (1983) indicated that achievement tests do predict school performance but cautioned that neither intelligence, achievement, nor creativity tests have shown predictive validity in relation to adult productivity or success. Although he was not writing specifically about identification of art talent, his conclusions may be as valid for art as for other academic subjects. There have been many studies that confirm Kirschenbaum supposition, most of which are based on the importance of factors such as motivation, task commitment, drive, persistence, or self-confidence. These have been shown to play a more important role in adult achievement than test results. Tannenbaum summarized a number of these studies and explained that, "There is a Yiddish proverb to the effect that a person with determination is more likely to succeed than is one with ability" (Tannenbaum, 1986, p. 41).

Backgrounds, Personalities, Values, and Identification

The issue of identifying students with art talent in diverse populations is of current concern to many researchers and educators. Students from diverse backgrounds, including minority students and students from economically disadvantaged groups, usually are under-represented in one or more phases of an identification process for gifted and talented programs. The United States Department of Education's Office of Civil Rights reported that minority groups are under-represented by 30% to 70% in gifted programs and over-represented in special education programs by 40% to 50% (Richert, 1987). All students differ in their interests, learning styles, rates of learning, motivation, work habits, and personalities, as well as their ethnicity, sex, economic backgrounds, and social class; it is such characteristics as these that many standard identification procedures ignore both in academic and arts areas. Students from diverse ethnic, racial, or social groups often possess unique characteristics that should be taken into consideration when identification procedures are being selected or developed (Baldwin, 1978). Kirschenbaum (1983) suggested that identification procedures also should take parental and community contributions into consideration and be sensitive to and reflect each community's values.

Life history information has been used by Abe, Fox, Coray, Ellison, and Taylor (1976) to predict art talent, as well as academic achievement and leadership ability. In their research, students' responses to items about past participation in the arts, enjoyment of such experiences, and valuing of art experiences were used to identify high school students with talent in the arts. Such biographical instruments, these authors claim, lack cultural or racial bias, as compared to more traditional identification measures. Khatena and Morse (1990) have used their *Multitalent Perception Inventory* as an identification measure of leadership, music, art, and creative talent of people ten years of age and older. There are some researchers attempting to develop identification measures of art talent for specific racial and cultural groups (Stinespring, 1991), but research of this kind is just beginning and more inquiry needs to be conducted before such identification measures can be used effectively.

There is a paucity of research about identifying visual art students for gifted and talented programs based on personality, values, and backgrounds. In the late 1940s, Lowenfeld and Brittain (1947) classified young adolescent students on a continuum with some students responding to visual stimuli with a more objective, accurate, or *visual* point of view and others with a more subjective, expressive, or *haptic* point of view. There was some research, done in the 1960s, about different students' spontaneous, deliberate, and academic modes of representation (Beittel & Burkhart, 1963; Burkhart, 1962). Beginning in late 1960s, Getzels and Csikszentmihalyi (1968; Csikszentmihalyi & Getzels, 1973) studied personalities and value orientations of college art students and found them to differ in some personality dimensions from other college students. Scott (1988), using similar measures, compared artistically gifted and talented high school art students with academically gifted and talented and average high school students. Her findings are similar to those reported by Getzels and Csikszentmihalyi on dimensions of aesthetic, economic, and social values; school grades, intelligence scores, and encouragement and support for studying art. We have reported results of interviews with students, ages 11-14, selected as artistically gifted and talented, that both challenge and corroborate such past research about backgrounds, personalities, and values of artistically gifted and talented students (Clark & Zimmerman, 1988). Although these studies may not relate directly to problems of definition or identification of artistically gifted and talented students, the findings do indicate a need for further study of backgrounds, personality, and values that may help identify artistically gifted and talented students.

Age and Identification

There has long been a debate among advocates of gifted and talented education about age and appropriate uses of formal identification procedures. This debate has *not* been discussed in depth or developed theoretically by art educators who advocate gifted and talented education; age is an important and unresolved issue in the development of talent in the arts. Some educators and theorists claim that intellectual giftedness can be identified by using a variety of methods with youngsters before they enter school (Johnson, 1983; Kaufman & Harrison, 1986; van Eldert, 1979). Others claim that giftedness and creative achievements are demonstrated at an early age only by relatively few students who have developed a requisite background of skills and knowledge (Feldman, 1979, Feldman & Goldsmith, 1986).

Similar claims exist in the literature of art education. There are researchers and theorists who claim that art talent will emerge in young children and can be recognized early (Winter, 1987) and others who claim art talent will emerge only among relatively few young students whose life experiences and background of skills and knowledge make it possible (Bloom, 1985; Clark & Zimmerman, 1984a). Some researchers claim that talent in music or mathematics will emerge at an earlier age than talent in the visual arts (Walters & Gardner, 1984). Others claim that students manifest talent in the arts at different ages and grade levels or that early emergence of specialized knowledge and skills about an art area often may be mistaken for "real" talent (Bloom, 1985; Khatena, 1989).

There also is disagreement among art educators about age and identification and early educational intervention. Visual arts teachers generally are not as concerned with early identification; they claim a certain level of emotional and educational maturity is necessary before a student can perform at levels that may be identified as clearly superior to that of their peers and, thus, be designated as gifted and talented. Such claims have not been verified by research, but are strongly operant among art teachers. These lead to obvious problems of generalization and the need for specific guidelines relative to a visual arts program. Even in specialized arts areas, there are enough differences to raise serious questions about generalized identification programs. Young violin players do not share similar histories with young composers; young painters do not share similar histories with young sculptors or budding art critics. Young actors do not require similar background experiences as do young playwrights; young dancers will develop differently than young choreographers. At this point in time, few definitive answers exist to guide decision-making about appropriate ages at which artistically gifted and talented students can or should be identified.

Multiple Criteria and Identification

If all artistically gifted and talented students were as obvious in their demonstration of special abilities, interests, and dedication to art as was Asher Lev in his obsessive drawing, it would be easy and expedient to identify such students for special arts programs. In 1979, Zettel reported that a majority of states suggested using only a standardized aptitude or achievement test, with a score in the 95th percentile, to place students in gifted and talented programs. Today, most state provisions and writers in the area of gifted and talented education are clear that current identification practices often fail to include students with potential gifts and talents because their demonstration of talent is not as obvious as was Asher Lev's. Due to the almost pervasive awareness of this problem, most current writers are unanimous in support of using multiple criteria systems in identification programs for all gifted and talented students (Clasen & Clasen, 1987; Cox, 1987; Feldhusen & Hoover, 1986; Gallagher, 1985; Jellen & Verduin, 1986; Martinson, n.d.; Paris, Lawton, Turner, & Roth, 1991; Sternberg, 1986; Treffinger & Renzulli, 1986). Multiple criteria identification systems also have been advocated in the area of gifted and talented art education (Boston, 1987; Byrnes & Ness, 1981; Chetelat, 1981; Cox & Daniel, 1983; Elam, et al., 1988; Hurwitz & Day, 1991; Khatena, 1989; Raby, 1988; Saunders, 1982; Stalker, 1981; Wenner, 1985, 1990; Winter, 1987). Sensitivity to the knowledge that students may have multiple gifts and talents in several domains, such as mathematics *and* music, within several arts areas, such as the visual arts *and* dance, and specializations within one arts area, such as painting *and* sculpting, also have prompted the use of multiple criteria systems for entry into specialized programs (Khatena, 1989; Krause, 1984).

When multiple criteria systems are used for identification programs, they should include diverse measures of various aspects of student backgrounds, behaviors, skills, abilities, achievements, personalities, and values because different students, at different ages and from different backgrounds, respond optimally to different types of tasks (Gallagher, 1985; Renzulli, Reis, & Smith, 1981). Many arts educators now are advocating using process-oriented measures, in addition to more product oriented measures, for assessment purposes. Multiple criteria systems for arts identification now being used are beginning to include both process observation and product measures. One justification often used for multiple criteria system identification is awareness of the need and desirability to select students appropriately matched to the purposes and content of a specific program. A number of persons now are advocating using identification measures of art talent, expressed through real-life, authentic situations with integrated, complex, and challenging tasks that can provide means of identifying higher level individual achievements and higher level thinking skills (Gardner, 1990; Wolf, 1989; Zimmerman, in press a).

Recommended Practices for Identifying Artistically Gifted and Talented Students

We recently attended a small group meeting at a local high school for parents of students who might be eligible to attend a newly formed gifted and talented visual art class. Criteria for entrance into this class, described as emphasizing studio art activities and an introduction to art appreciation, were that students should have high grades in their previous art classes, be nominated by their present art teacher, and have scores above the 95th percentile on the *Iowa Tests of Basic Skills*, *PSAT*, or other standardized measures. We were astonished and thought of the many students who would fall through the net and be lost if these were the sole criteria used. What astonished us was that samples of student art work and interviews were *not* being considered or examined for entrance into the program. Effects of the identification procedures being used might be simply to select students who were academically superior, good test takers, and conforming. It is very important to understand that a combination of appropriate procedures is the most effective method of identifying gifted and talented students.

What are the actual practices of identification and selection used in programs for artistically gifted and talented students? In 1988, Bachtel surveyed selection procedures used in over 400 K-12 programs across the country for gifted and talented students in dance, drama, music, and the visual arts. She found the following selection procedures, in order of popularity, are most commonly used by 25% or more of current programs:

1. Teacher recommendation
2. Student interest
3. Portfolio review or audition
4. Creativity test scores
5. Interviews
6. Self recommendations
7. Knowledge of arts making or performance
8. Formal performance tests
9. Parent recommendations

Bachtel found that most programs for gifted and talented art students use some combination of at least two or more identification procedures for selection, and that nominations of various kinds accounted for more than one-half of the total number of procedures used in all programs.

Administrators considering implementing a program for artistically gifted and talented students need to make decisions about program size, character and purposes, student population, and available funding before identification decisions should be made. Program procedures currently used for identification of gifted and talented students typically admit from five to fifteen percent of local school populations. Decisions about program size obviously dictate identification procedures designed to achieve the desired population. Identification procedures also should be used to screen students as most appropriate to types of classes offered. The critical prerequisite skills, abilities, and experience, therefore, would differ to some extent for different kinds of programs, in different parts of the country, serving different populations of students. The age group to be served, types of instruction to be offered, and goals of the program should guide decisions about the number and the kinds of students to be admitted to a program (Clark & Zimmerman, 1987).

If school district personnel are initiating a new program for artistically gifted and talented students, they may decide to be less rigorous in their criteria for entrance than if they had a long established and popular program that was well funded. Choosing appropriate screening procedures for identifying artistically gifted and talented students should be considered in light of a decreasing applicant pool. A first-come-first-served procedure would be least selective, followed by non-structured nominations by others; self nominations and student desire and interest; structured nominations by self, peer, parent, teacher, and others; grades in art courses; academic records and achievement test scores; informal arts tests or work samples; and reviews of slides or videos. Portfolio reviews, auditions, interviews, and observations would be most selective and most costly to administer (see Figure 1).

Non-structured Nominations

Non-structured nominations simply ask nominators to recommend prospective students. Various persons, such as self, peers, teachers, parents, counselors, and others can provide valuable insights about students. The value of such nominations, however, depends upon the nature of the information and quality of the insights provided by a nominator. Nominator bias, as well as lack of specified criteria for nomination, often result in either too little needed, or too much inappropriate, information. Peer and self non-structured nominations are valuable in identification of artistically gifted and talented students, however, because students usually know their own skills and the skills and strengths of other students in their classes and in extra-curricular and out-of-school activities.

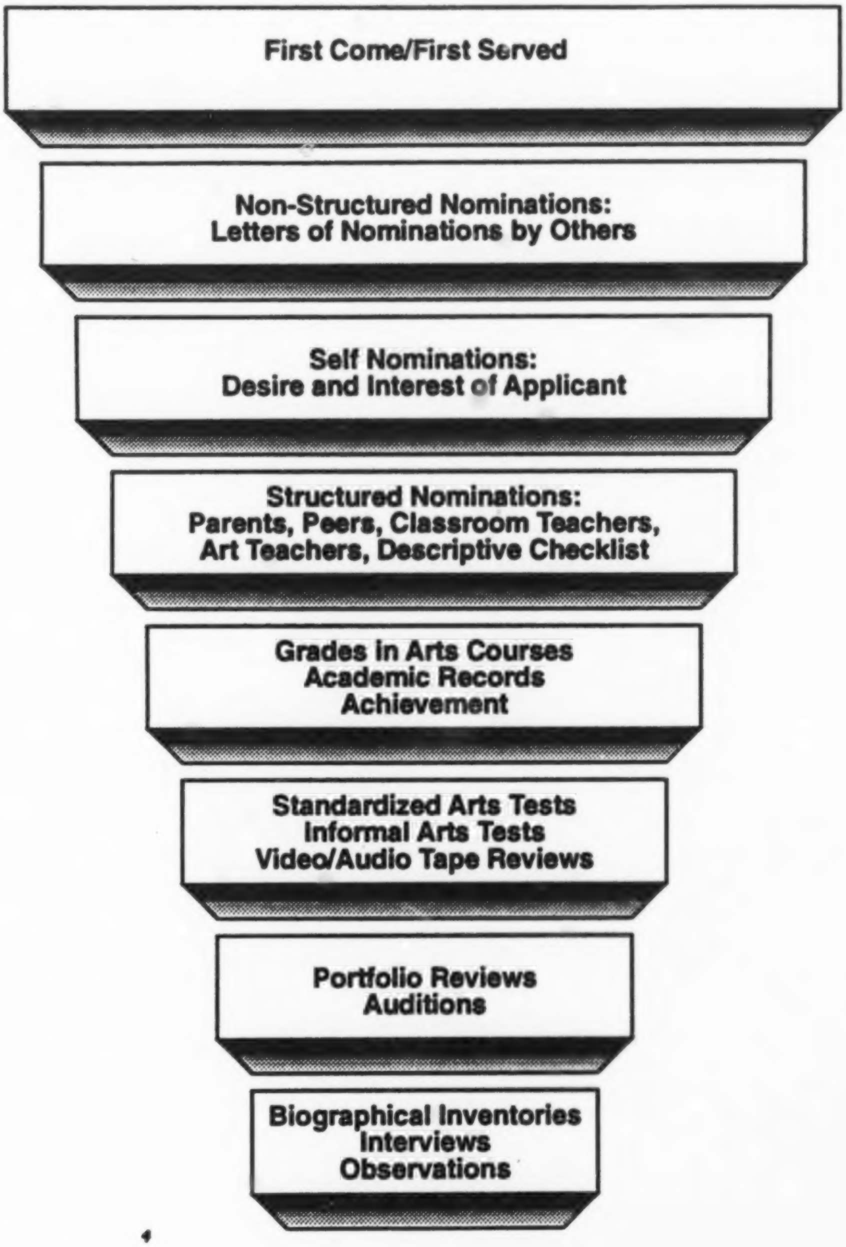

Figure 1. Screening Procedures for Identifying Artistically Gifted and Talented Students

Student desire and interest are probably the most salient non-structured indicators for identification of artistically gifted and talented students; intense interest in one or more of the arts and a persistence of expressive efforts are critical characteristics. Applicants to programs for students with high abilities in the arts might be nominated by a teacher or principal, meet a number of entrance criteria, and should be asked to write a short essay about why they want to attend. Such statements of desire and interest to study art may indicate successful art experiences in the past, talent in more than one arts area, humor and problem solving abilities, and high motivation to study art. Collected from students with different backgrounds, learning styles, ethnicity, etc., along with other information provided on application forms, such statements can provide important insights about applicants and help place them in classes appropriate to their abilities and interests. Diverse responses should be assessed on individual bases and should not be compared.

Structured Nominations

Structured nominations, in which all respondents answer the same questions, also are important to receive along with open-ended responses. They control information reported and allow comparison of responses found on different applications. Structured nomination forms provide more useful information than open nominations because they require that the same information be reported for each applicant and, at the same time, can be tailored to stated purposes and goals of a program. Stated criteria for selection of applicants are translated into questions on structured nomination forms and every applicant can be evaluated specifically, as well as compared to other applicants on each item response. Structured nominations can be solicited from prospective students and from parents, peers, classroom teachers, and art teachers. Nomination efficiency requires preparation of forms that are appropriate to program goals, clear and easy to use, and easily assessed by program staff.

Specific program purposes and goals should guide preparation of structured nomination forms to ensure efficient and effective identification of students who are best suited to the proposed program goals. Commonly available structured nomination forms, such as behavioral checklists, consist of prepared lists of behaviors in specific categories. Users are asked to check, or rate, observations of specific behaviors. When rating is added, each behavior is judged for its frequency or strength, as well as its presence. A few nationally available behavioral checklists for art behaviors exist and have been used by programs in several parts of the country (Khatena, 1981; Renzulli, et al., 1976). There still is need for greater development of behavioral checklists to improve their clarity of terms, ease of use, and appropriateness to specific arts programs. The use of behavioral checklists by parents, teachers, peers, or others requires inservice education so that the terms used always are understood in the same ways. Checklists that are used to record degrees of differentiation provide results that are superior to simple, yes/no checklists of characteristics.

Self Nominations. Artistically gifted and talented students often are very self-critical, but are able to assess their own desires, interests, skills, and abilities more perceptively than others. A self nomination, in the form of a self-interest inventory, can identify pertinent hobbies and interests of students that relate to goals of a program. Self-interest inventories also can yield data about students' beliefs about themselves and their general beliefs, goals, and values related to achievements in the visual arts.

Peer Nominations. Although many gifted and talented art students may conceal their abilities from teachers and other adults, they generally are well-known to their peers. Peers know one another in out-of-school contexts where their abilities often are shared openly. Individuals who may be overlooked by school staff members, therefore, may be identified by means of a peer nomination. Asking students to list other students they believe are talented simply elicits a list of names; more useful information is gathered by asking students to nominate specific individuals for specific tasks and to rate the frequency of their art-related behaviors. Such frequency ratings provide information that can be used to guide more efficient and effective selection procedures. By asking for additional comments, other information may be obtained about peer perceptions that also may help guide selection procedures.

Parent Nominations. Parents often, but not always, know their children better than teachers and administrators because they are able to see their children in multiple social situations outside school and at home. Of course, parents of artistically gifted and talented students often are biased and may underemphasize or overemphasize their child's accomplishments for various reasons. Recognizing this potential for bias precludes using parent nominations exclusively, although parents often can supply types of information that school personnel or peers may not be aware of or report. Parent nominations can take the form of an open invitation to write a letter or a structured form to be filled out. A simple checklist or yes/no answer form should be avoided; forms on which parents rate the frequency of art-related behaviors and generally describe their child's interests and activities that relate to potential success in a selective school program are more useful for purposes of identification.

Teacher Nominations. Evidence presented by researchers has demonstrated, over and over again, that an open-ended invitation for teachers to nominate gifted students has yielded very poor results; such teacher judgment alone catches only about 20% of gifted or talented students (Boston & Orloff, 1980, Gallagher, 1985; Pegnato & Birch, 1959). It is possible to greatly improve the effectiveness of teachers' nominations by providing structured nomination forms that state specific criteria and by inservice education about the use of nomination criteria and methods prior to the nomination process (Gallagher, 1985). Nomination forms that can be used by teachers and others associated with a school program may require rating the frequency of observed behaviors in weighted columns that help guide selection processes. Such forms are far more useful than simple, yes/no checklists. A nominator often is asked to supply additional comments and these also should be used to guide selection decisions. Such comments help form an overall profile describing important work habits, art knowledge, and motivation levels that can be used to guide selection decisions.

We suggest that various combinations of checklists and subjective questions are superior to either practice used in isolation. Both non-structured and structured sources of information are important because they yield very different kinds of information.

Group IQ, Achievement Tests, and Academic Records

The use of standardized group IQ and achievement test scores has been recommended by some people and the usual criteria are for scores two or more years above grade level. This recommendation is based upon research that has shown that students who display unusual abilities in any of the arts usually are intellectually superior and also are achieving above grade level in other school subjects. Such achievement often is demonstrated by superior grades in academic subjects, including the arts (Clark & Zimmerman, 1988).

Content of group IQ and achievement tests, however, is not always suitable for identifying gifted and talented students in art (Boston & Orloff, 1980; Gallagher, 1985; Pegnato & Birch, 1959); creative and divergent responses are penalized, rather than rewarded, on these kinds of standardized tests, as they frequently are in school classrooms

(Gallagher, 1985). We recommend that if IQ and achievement tests are used for screening purposes, they should not be used exclusively, although it is true that the great majority of students who qualify for advanced level art classes are students with superior grades and high intelligence. Obvious characteristics of students in our summer program, often surprising to new faculty or other program staff, were the intellectual, physical, and emotional maturity they demonstrated while attending classes and activities.

Standardized Art Tests and Creativity Tests

We cannot, at this time, recommend any of the currently available standardized visual art tests. Many questions have been raised about their possible contribution or applicability to the problem of identification or selection of students for placement in programs for artistically gifted and talented students, as well as other aspects of art education research.

Creativity tests recently have been challenged as to their applicability for identifying gifted and talented students in general. Although some people have claimed that talents in visual and performing arts are closely associated with creativity, others have raised questions about the use of creativity tests for the identification of artistically gifted and talented students. Researchers have questioned whether creativity tests should be used to measure skills that students use in making art. As a result, students who score high on creativity tests may not, necessarily, be artistically gifted and talented (Lazarus, 1981). We, therefore, recommend caution with the use of creativity tests for purposes of identifying artistically gifted and talented students.

Informal Art Instruments

Many administrators of local visual and performing arts programs, especially at the junior and senior high school levels, administer group drawing tests, ask students to submit slides of their art work, or require that students send a portfolio as screening or identification procedures. Often, students are not given information about the specific criteria that will be used to judge their art work. Locally created criteria frequently are used to make selection decisions and these are often stated in very open or ill-defined terms. Such criteria, usually rated on prepared forms or checklists, fail to guide qualitative judgments, are often very subjective, and are based upon personal reactions that lack sufficient information to be justified or defended.

The work-sample technique offers an alternative to subjective measures and is not subject to most of the criticisms we have described. In work-sample techniques, a common assignment or group of assignments is given to all applicants and evaluation criteria are established to grade results, thus making comparisons of results possible. Examples of the work-sample technique used in visual arts research and in the screening and identification of gifted and talented visual arts students include *Clark's Drawing Abilities Test* (Clark, 1989) and Hurwitz's eight art-centered tasks (Hurwitz, 1983). Clark's test has been used by many school districts with a variety of populations and has been standardized on the basis of administration to over 2,500 subjects. Many informal art instruments are not trustworthy enough to be used as sole criteria for selection of applicants into a gifted and talented program for arts students because they lack sufficient reliability and validity. Criteria used for scoring of most informal art instruments are idiosyncratic and informal art instruments inevitably will vary in quality and their ability to predict success in a program, yet they remain popular and are often used as parts of larger sets of identification procedures.

Portfolio and Performance Review

The advantages of being able to view and critique each student's work and/or performance in person are obvious. Portfolios can display work in several media or related series of works and these are often difficult to obtain in other ways. Viewing a student's art work in a variety of media can give judges insights about the student's abilities to use art skills and techniques and demonstrate expressive use of media.

Demonstrated superior abilities should not be the only factors assessed in portfolio or performance reviews; attention also should be paid to processes that lead to a product or performance. Process portfolios can be used as part of an identification process and may take the form of files or folders that provide summaries of individual achievements. Process portfolios can contain longitudinal collections of student ideas, sequences of drafts of work, and raise questions about present and future possibilities. In addition, journal entries and other forms of reflection also can be found in process portfolios (Gitomer, Grosh, & Price, 1992; Zimmerman, in press a).

Portfolio review does have several drawbacks. Exclusive use of this procedure usually eliminates identification of students with potential talent because students who have taken prior art classes are obviously at an advantage in such processes. Portfolio reviews are costly to administer and are time consuming. Candidates who have submitted portfolios also should, if possible, be asked to create a related product under controlled conditions while being observed by program judges to assess how they work during the process of creating.

Candidates should be told, in advance, specific portfolio requirements and criteria that will be used to judge them. It is unfair to ask for a portfolio and then reject a submission because it is atypical, too traditional, too sparse, contains too many images, or any other reason that is unknown to the candidates prior to submission. To ensure both similar interpretation of criteria and that all candidates are screened as fairly as possible, judges should be educated to use portfolio reviews equitably and attend to potential, as well as demonstrated superior abilities.

Interview Procedures

Interviews are conducted in a number of programs as an identification procedure following preliminary screening. Sometimes an interview is conducted at the same time portfolios are reviewed. Interviews give both an applicant and an interviewer chances to interact and share information in an open-ended exchange. Interviews also should be used to give applicants information about a program, as well as collect information about applicants that might not be available through other sources. Interviews are costly and time consuming, however, and should be used only toward the end of a screening or an identification process.

Program designers should create interview protocols to assure that specific information derived from interviews will identify students who are best suited to the program offered. It is important that interviews be informal and relaxed, but that similar questions and topics appropriate to the purposes of a program are used with all candidates. Interviews offer opportunities for interviewers to get in-depth responses to questions that might not be included in written application materials (Clark & Zimmerman, 1988).

Upon completion of an interview, a biographical inventory checklist can be used to summarize each student's responses from application materials, observations, and interviews. After reviewing specific programs that used multiple criteria identification systems, Freeman (1979) and van Eldert (1979) concluded that a relatively brief biographical inventory might be the most efficient identification procedure for identifying high ability students. Hurwitz (1983) used a self-evaluation form that resembled a biographical inventory for identifying artistically gifted and talented students. Characteristics identified on a biographical inventory have been shown to be highly correlated with other identification measures, accurately predict success in a program for artistically gifted and talented students, and do not appear to be as culturally or racially biased as opposed to more traditional testing instruments (Ellison, et al., 1976). Interviewers, when possible, should have opportunities to examine each candidate's application materials prior to an interview to familiarize themselves with strengths, interests, goals, and other aspects expressed by each candidate. They should tailor questions to the interests and strengths of individual students.

Observation Procedures

Trained observers can be very accurate for identifying artistically gifted and talented students by observing students working in classrooms and other settings. It often is very important to observe students while they are creating art work because such observations, in general, yield a rich fund of information that would not be available from any other source. Observers should be persons who are objective and not regular participants in the classroom environment. Ideally, observers should not come with preconceived notions about the students or categories in which to classify students' art talents. Information about students with talent or potential talent should emerge as an observer spends time in the classroom. Many people have recommended observation as an important aspect of identification procedures. Observation, however, has two major limitations; it is costly and requires trained, perceptive observers who are not regular participants in the student's environment.

Age/Grade Procedures

In Figure 2, recommended procedures are matched against suggested appropriate age/grade categories. These suggestions for age/grade level identification procedures seem self-evident. We have recommended that multiple identification procedures be used and that they be used at appropriate age/grade levels in the schools. Interviews, academic records, and self-nominations, for instance, are not usually appropriate at the primary grade level, although they can be used with confidence at secondary levels.

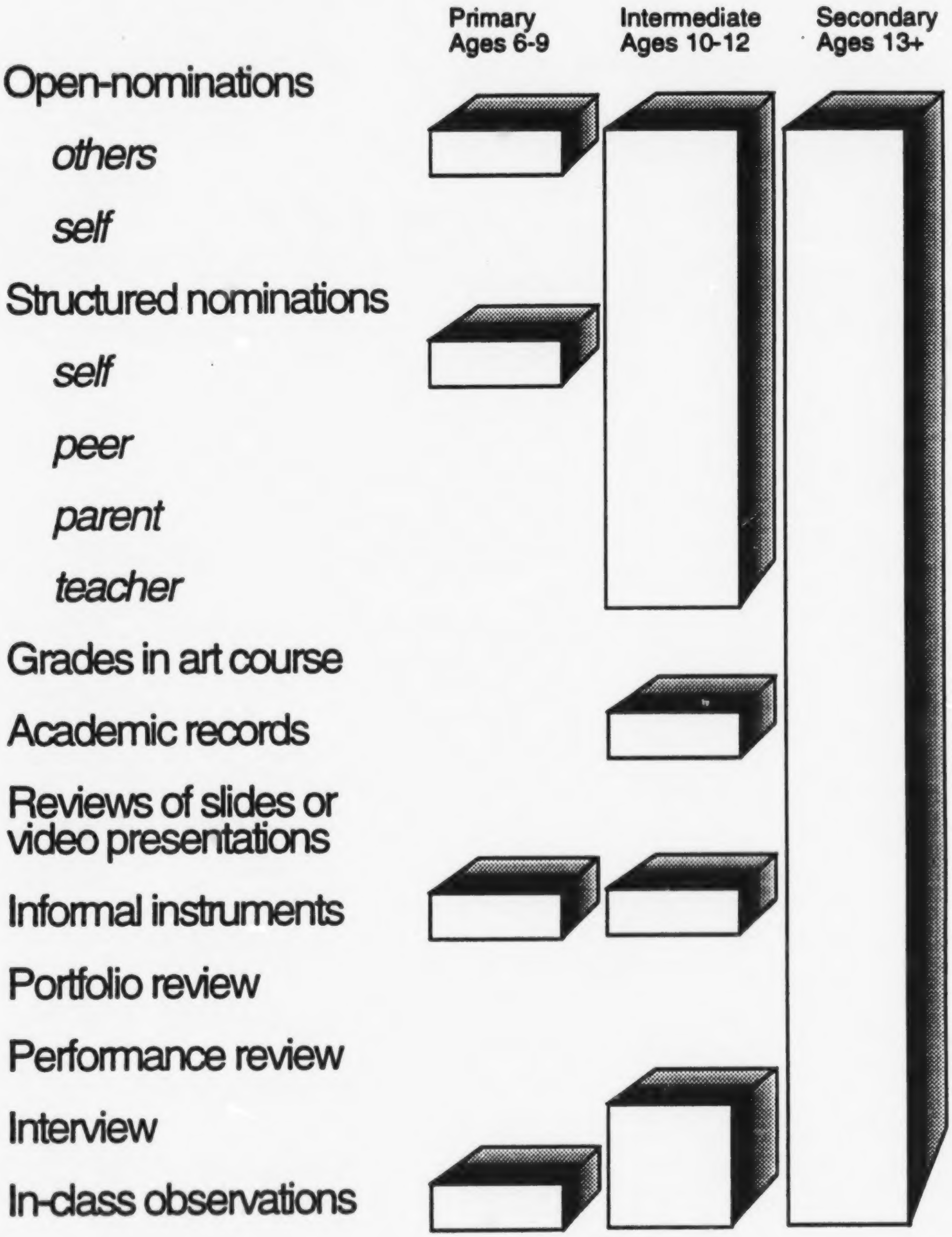

Figure 2. Application of Identification Procedures at Various Age/Grade Levels in Schools

Conclusions

In 1987, we reported a limited number of then current identification practices, standardized arts tests, and screening procedures used at state and local levels. Since that time, numerous programs for students who are gifted and talented in the arts have appeared and many states have prepared specific guidelines for identification of gifted and talented arts students (Bachtel, 1988). Examples of current state guidelines that have been developed specifically for identification of artistically gifted and talented students include those developed for South Carolina (Elam, et al., 1985) and Illinois (Illinois State Board of Education, 1991). Both these guides advocate use of multiple criteria systems for identification of gifted and talented arts students and contain descriptions and examples of a variety of nomination forms, checklists, and other useful resources. Examples of state guidelines that have been developed for general identification of gifted and talented students, that include students talented in the arts and that recommend multiple criteria systems, are those developed for Indiana (Keirouz, 1990) and Wisconsin (Clasen & Clasen, 1987). The Indiana guide also contains explanations, evaluations, and recommendations for identification procedures and lists of a variety of characteristics of diverse students. The Wisconsin guide contains a useful chart designating tests that may be used specifically for identifying disadvantaged students.

There still are many limitations to effective and efficient identification of artistically gifted and talented students. Although there has been a progression from using single identification instruments to using multiple criteria systems, decisions about which measures to use are often based on armchair speculation. Currently, there are no agreed upon criteria derived from research findings about interrelationships of these measures and this is one reason why a diverse battery of identification procedures is highly recommended. We have raised many questions that remain to be answered about definitions of talents in the visual arts and the inclusion or exclusion of culture, student characteristics, creativity, arts skills, cognitive and affective abilities, potential and/or performance, processes and/or products, art specializations, and distribution of art talent in the school and general populations. Identification issues need to be further researched, including use of standardized tests of IQ, achievement, and creativity; effects of student background, personalities, and values; determining appropriate ages for talent identification, and appropriate uses of multiple criteria systems. Answers to these questions will guide future design and help create more appropriate procedures for screening and identification of artistically gifted and talented students. Procedures currently used, and others that are recommended for use, periodically need to be examined critically and evaluated in light of the most recent research findings and reports of successful implementation in artistically gifted and talented programs throughout the country.

Recommendations for Identifying Gifted and Talented Students in the Visual Arts

The following recommendations are derived from review of issues and practices related to identification of gifted and talented students in the visual arts. Each recommendation is followed by a brief discussion and suggestion for future research.

Recommendation One: The term *artistically gifted and talented* is recommended for purposes of research and practices relative to the identification and education of students with high ability in the visual arts.

Discussion: Rather than separating the terms *gifted* in reference to intellectual abilities and *talented* in reference to art abilities, the interdependence of these terms should be demonstrated by linking them in the term *artistically gifted and talented.* This linkage places education for artistically gifted and talented students on an equal basis with intellectually gifted and talented students, rather than relegating high ability art students to merely technical or creative pursuits considered as independent of intellectual abilities. The research implication is that art talent should be conceived of as multi dimensional with emphases on cognitive complexity, as well as affective intensity, technical skills, and interest and motivation in the arts.

Recommendation Two: Art talent, like intelligence, should be conceived of as normally distributed with students with highly developed art abilities at one end of the distribution and students with poorly developed art abilities at the lower end of the distribution.

Discussion: A number of education researchers have speculated that art talent, like intelligence, probably is normally distributed. Acceptance of the concept of art talent as normally distributed would require conceptions of low, average, and high levels of behaviors and performance, as well as appropriate educational experience for students at each of these levels.

Professional acceptance of the concept of art talent as normally distributed should lead to new and substantially different identification criteria and procedures in which artistically gifted and talented students are able to be identified as separate from the general population. Researchers, therefore, should concentrate their efforts on clearly defining qualitative levels of behavior and performance within the distribution of talent among students.

Recommendation Three: Caution should be exercised in using creativity tests as a means of identifying artistically gifted and talented students.

Discussion: Creativity tests are used to measure problem solving skills and divergent thinking abilities applicable to a variety of situations. Many contemporary researchers and writers, however, have asserted that the concept of creativity often is poorly understood and poorly defined and that there are no reports of the validity of creativity tests in predicting success in gifted and talented programs for students with high abilities in visual arts. There is an apparent need to analyze past research, and conduct new research, about creativity tests in respect to their conceptual and operational definitions and their relationships to identification of artistically gifted and talented students.

Recommendation Four: Identification of artistically gifted and talented students should be based upon attention to student potential and work in progress, as well as final performance and products.

Discussion: Many programs for artistically gifted and talented students are based upon defining art talent as the ability to create a superior product or perform in a distinguished manner. Many art educators are now eliminating such requirements; they are expressing concern for students' interest and desire to participate and their potential for performance. Researchers will be challenged to develop methods of identifying students with potential to perform at high levels of ability in the visual arts and at same time access emerging skills, cognitive abilities, and affective abilities through work in progress, as well as final products.

Recommendation Five: Currently available standardized art tests should not be used to identify students with high abilities in the visual arts.

Discussion: Naturally standardized art tests have been evaluated by numbers of reviewers, and questions have been raised about their usefulness as measures of art abilities. There are presently no standardized art tests that can be used confidently to identify artistically gifted and talented students. It is recommended that researchers develop effective alternatives to standardize art testing, such as process portfolios, work samples, and biographical inventories.

Recommendation Six: Students' backgrounds, personalities, values, and age need to be studied as factors in identification of art talent.

Discussion: Students from diverse backgrounds, including minority students and students from economically disadvantaged groups, usually are under-represented in programs for artistically talented students. All students differ in their interests, learning styles, rates of learning, motivation, work habits, and personalities, as well as their ethnicity, sex, economic backgrounds, and social class, and it is characteristics such as these that many standard identification procedures ignore.

There are researchers who claim that visual art talent will emerge in young children and can be recognized early, and others who claim visual art talent will emerge only among relatively few young students. All of these claims, and others like them, have not been verified and have led to obvious problems of generalization. There is a need for researchers to develop alternative guidelines to be developed relative to each of these claims.

Recommendation Seven: Use of multiple criteria systems is recommended in all identification programs for artistically gifted and talented students.

Discussion: When multiple criteria systems are used for identification programs, they should include diverse measures of various aspects of student backgrounds, behaviors, skills, abilities, achievements, personalities, and values. This is important because different students, at different ages, and from different backgrounds respond optimally to different types of tasks. Another justification for using multiple criteria systems is awareness of the need and desirability to select students appropriately matched to the purposes and content of a specific program. Although there has been a progression from using single identification instruments to using multiple criteria systems, decisions about which measures to use, what criteria are appropriate, and how these measures interrelate have not been established through research. In order to proceed with this recommendation, such research is required.

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The University of Connecticut

Dr. Francis X. Archambault, Associate Director
The University of Connecticut
School of Education, U-64
Storrs, CT 06269-2007
203-486-4031

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323 Aderhold Hall
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Yale University
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Box 11-A, Yale Station
New Haven, CT 06520-7447
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